REMARKS

Summary of the Office Action

The Office Action rejected claims 24, 35, 39, 41, 54 and 63 under 35 U.S.C. 112(1), and rejected claims 17, 19, 21-24, 27-41, 44-45, 47, 54, and 59 under section 103(a) as being unpatentable over Weikl (DE9102312.2) in view of Blackshear (U.S. Patent 5,308,356), and rejected claims 48, 51-53, and 57-58 under section 103(a) as being unpatentable over Weikl in view of Blackshear and Van't Hooft (U.S. Patent 4,881,937), and rejected claims 20, 26, 42-43, 46, 49-50, and 55-56 under section 103(a) as being unpatentable over Weikl in view of Blackshear and the Flexmedic article. The Office Action also rejected, under a double patenting rejection, claim 60. Finally, the Office Action rejected, under the doctrine of obviousness-type double patenting, claims 18, 25, and 61-63. Hence, at least claims 18, 25, and 61-62 would be allowable if a terminal disclaimer is submitted.

In this response, certain claims have been amended, claim 60 has been cancelled and new claims 64-73 have been added. A discussion of the rejection now follows.

Section 112(1) Rejection

The Examiner rejected claims 24, 35, 39, 41, 54 and 63 under 35 U.S.C. 112(1) because the specification, while being enabling for centering, does not reasonably provide enablement for the balloon being a device for centering. Applicant respectfully points out, however, that the specification clearly teaches, in an enabling manner, that a balloon having a channel (or being segmented or scalloped) is one way to provide centering. At least the second paragraph of page 18 of the specification, in conjunction with Figures 5A and 5B, show that a balloon, having channels, can act to center the radioactive source. For example, that paragraph states:

> In the preferred embodiment, an inflatable balloon is provided in the catheter for centering the source tip of the source wire....The treatment catheter may include...an inflation channel for the centering balloon. Segmented or scalloped balloons, or otherwise channeled balloons may be used, together with a channeled catheter or alone, to permit some flow-by of blood....

It is further observed that the Examiner has relied upon a combination of Weikl and Blackshear, in which Blackshear allegedly (according to the Office Action) teaches, when combined with Weikl, a centering balloon which allows perfusion. How can this combination be enabled if claims 24, 35, etc. are not enabled?

Thus, Applicant respectfully submits that the section 112(1) rejection is without merit and respectfully requests that the subject rejection be withdrawn.

Section 103(a) Rejections

Applicant respectfully traverses all of the section 103(a) rejections. Weikl teaches away from a combination with Blackshear because Weikl describes a radiotherapy with perfusion but without a balloon. Weikl, in particular at page 9 of the translation, describes removing the angioplasty catheter completely and introducing the radiation source 16 after removing the angioplasty catheter. In this case, perfusion is allowed while the radiation source 16 is present because there is no balloon. Weikl does not require centering in this embodiment. Thus, one of ordinary skill in the art would find it unnecessary to combine Blackshear with Weikl because Weikl provides a way to allow perfusion while irradiating the angioplasty site. There would be no motivation and there is no suggestion to use a passive perfusion angioplasty balloon as in Blackshear when Weikl already provides an embodiment in which perfusion is provided. For at least these reasons, all rejections under section 103(a) should be withdrawn. The addition of Van't Hooft and/or Flexmedic does not cure the deficiency in the rejections.

Claims 64-73 have been added to highlight another reason why the present inventions are distinct from and not obvious in view of the cited references. Both Weikl and Blackshear disclose only balloons intended for angioplasty--in other words, balloons which perform the dilation. Claims 64-73 relate to a different utilization of a balloon or centering device, as described in the subject application, in which the balloon or centering device is not used to perform the angioplasty operation (the dilation operation). Instead, the balloon or centering device of claims 64-73 is used to center the radioactive source, but is not used to dilate. This feature is completely absent from the combination of Weikl and Blackshear. The addition of Van't Hooft and/or Flexmedic does not improve the deficiency of the rejections.

Double Patenting Rejection

Claim 60 has been cancelled. Thus, Applicant respectfully submits that the double patenting rejection is rendered moot. Without agreeing with the obviousness-type double patenting rejection with respect to claims 18, 25, and 61-63, Applicant is submitting herewith a terminal disclaimer relative to U.S. Patent 6,283,910, thereby overcoming this rejection.

Applicants respectfully submit that in view of the amendments and arguments set forth above, the rejections herein have been overcome. Accordingly, claims 17-59 and 61-72 are in condition for allowance, and such action is earnestly solicited at the earliest possible date.

Petition for Extension of Time

Applicant hereby petitions for a three (3) month extension of time to respond to the pending Office Action and has submitted the fee for this petition. Please charge Deposit Account No. 02-2666 for any deficiency in fees associated with this response.

Respectfully submitted,

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